

Scottsdale Green Building

RATING CHECKLIST UPDATE SUMMARY

August 4, 2006

The new green residential rating checklist will apply only to one- and two-family dwellings and multiple single-family dwellings (townhouses and condominiums) as defined by the International Residential Code (not more than three stories in height with a separate means of egress). The new green rating checklist and inspection process will go into effect September 1, 2006.

Background

Since the last major revision to the Scottsdale Green Building checklist in 2001, there have been many industry-wide changes, including the following:

- City of Scottsdale adoption of energy code requirements as part of the International Residential Code (IRC) and International Energy Conservation Codes (IECC)
- EPA ban on chromated copper arsenate (CCA) treated wood for residential uses
- National Association of Home Builders *Model Green Home Building Guidelines*
- U.S. Green Building Council pilot *LEED for Homes* green program
- New green building materials, systems and products
- Construction industry building more energy efficient homes
- General public more informed of energy and environmental issues

The update to Scottsdale's green building rating checklist reflects many of these industry-wide changes and builds upon the experience gained since the inception of the program in 1998.

The following guidelines were used to update the green building rating checklist:

1. Mandatory requirements (pre-requisites)
 - Account for city adopted energy code, state and federal guidelines
 - Building industry changes including materials and products
2. Qualification criterion, point values, and performance outcomes
 - Account for national green building programs and rating checklists
 - Verification methods including plan review, inspections, self-certification, and compliance certificates
3. Energy performance and indoor environmental quality
 - Improve predictor for performance and energy savings
 - Create synergy with energy code provisions and existing 3rd party energy certification programs such as Energy Star and Environments for Life

New Green Inspection Process

A new streamlined green building inspection process will accompany the new checklist update. The city-building inspectors will automatically inspect for green building items as part of the regular building inspection process. A number of self-certified checklist

items have been identified and accountability will be placed with the builder who will be required to sign a Certificate of Compliance upon final inspection for those items not inspected by the city. The Certificate of Compliance will become a permanent city record along with the Certificate of Occupancy.

Checklist Summary

Following is a summary of the rating checklist changes:

1) Qualification levels

- Entry level points increases from 26 to 50
- Advanced level points increases from 56 to 100

2) Mandatory items have been revised and include the following new items:

- Site
 - At least 80% of landscaping is Xeriscape or native
- Energy Rating
 - Buildings must be designed to be at least 15% above the energy code (IECC) using the user-friendly REScheck software (available free on DOE web site) or meet Energy Star for Homes standard
- Indoor Environmental Quality
 - Kitchen and bathroom exhaust fans must be Energy Star labeled and meet airflow rates (cfm's) per ASHRAE Std. 62.2
- Plumbing
 - Hot water demand controlled recirculation pump must be installed on water heaters located more than 20 feet from furthest fixture served (manual control or occupant sensor switch with automatic temperature sensor shut-off)
 - At least 50% of bathroom toilets must be high-efficiency (1.3 or less gal/flush) or dual-flush operated (avg. flush of 1.2 gal or less)
- Operation and Maintenance
 - Homeowner's manual that includes green certificate of occupancy, signed certificate of compliance, green building features, product literature and manufacturer's operation manuals
- House Size Rating Adjustment
 - Dwellings under 3000 sq. ft. of total conditioned space receives a bonus point for every 100 sq. ft. under 3000 sq. ft.
 - Dwellings over 3500 sq. ft. of total conditioned space (not including guesthouse and ancillary structures) requires an additional point for every 250 square feet over 3500 sq. ft.

3) Green Point Options

- Section 1- Site
 - New option for common wall dwelling units
- Section 2 - Structural
 - Revised options for both FSC (Forest Stewardship Council) and SFI (Sustainable Forest Initiative) certified sustainable lumber
 - New option for not using false beams, non-load bearing columns or double walls

- Revised option for materials that are extracted or recovered, processed and/or manufactured within 500 miles
- Revised option for modular components including advanced framing and panelized wall/roof systems
- Section 3 – Energy Rating/Performance
 - Energy prescriptive options (e.g., R-values, window values) have been removed and replaced with performance options (points for 25%-45% above energy code using the REScheck software)
- Section 5 – Heating, Ventilation, and Air Conditioning
 - New option for bathroom exhaust fans operated by occupant sensor, humidistat controller, or timer
- Section 6 – Electrical Power, Lighting, and Appliances
 - Revised option for high-efficiency lighting with efficacy of 40 lumens per watt or more
 - Solar electric (PV) system option revised to account for each 10% of annual electrical load supplied by solar system
- Section 7 - Plumbing
 - Revised water heater efficiencies including solar water heating systems
 - New option for high-efficiency faucets and showerheads with 2.0 or less gallons per minute (gpm)
 - New option for hot water recirculation loops not exceeding 200 feet for pipe line sizes less than 1 inch and 400 feet for pipe line sizes 1 inch or more
 - Revised option for water purification systems that have a pure water recovery rate equal to at least 70% of water intake
- Section 8 – Roofing
 - Revised option for roofing materials that have a Energy Star or Cool Roof rating
- Section 11 – Interior Doors, Cabinetry, and Trim
 - Revised options for both FSC (Forest Stewardship Council) and SFI (Sustainable Forest Initiative) certified sustainable woods
- Section 12 – Flooring
 - Revised option for carpeting certified under the Carpet & Rug Institute's Green Label Plus program
 - Revised options for both FSC and SFI certified flooring
- Swimming pool and spa section has been deleted due to fact that pool permit inspections are not in sequence with building permit inspections

For questions and/or comments, please contact Anthony Floyd, Scottsdale Green Building Manager at 480-312-4202.

For further information on the Scottsdale Green Building Program, please visit www.scottsdaleaz.gov/greebuilding